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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/691,291

10/22/2003

Jonathan Michael Allen

ROC920030037US1

2246

7590

05/04/2005

Robert R. Williams
Dept. 917
IBM Corporation
3605 Highway 52 North
Rochester, MN 55901-7829

EXAMINER

TWEEL JR, JOHN ALEXANDER


ART UNIT

PAPER NUMBER

2636

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/691,291	Applicant(s) ALLEN ET AL. 	
	Examiner John A. Tweel, Jr.	Art Unit 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 11 is objected to because of the following informalities: Line 2 of claim 11 contains a misspelling of the word --said-- as "aid". Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Miglioli et al** [U.S. 6,512,454].

For claim 1, the apparatus for sensing tampering with an electrical device taught by **Miglioli** includes the following claimed subject matter, as noted, 1) the claimed electrically conductive connector element is met by the conductive screws (No. 201) extending from a first enclosure member (No. 205) and secured to the second enclosure member (No. 215) to wholly enclose the electrical device (No. 209), 2) the claimed conductive layer is met by the metal external cover (No. 205) that electrically contacts the screw when it is connected to the cover, and 3) the claimed tampering sensing circuit is seen in Figure 3 that engages the conductive screw and signals the

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occurrence of tampering when the screw is disengaged from the external cover.

However, the "layer" referred to above is not an actual layer as much as the outer surface of the metal external cover.

Not only have outer covers of electronic equipment been made of metal for many years, the use of one as opposed to merely coating the cover with a metal layer would result in any new or unexpected result in the tamper sensing system. This is considered an obvious variation on the prior art and is not considered a patentable innovation.

For claim 2, the conductive connector element of **Miglioli** is a metal screw that is received in a threaded opening (No. 223).

For claim 3, the metal external cover of **Miglioli** is connected to the ground potential of the electrical device (Fig. 3), the screw is connected to the tamper sensing circuit, and the circuit includes output nodes (No. 303) connected to conductive layers on the board (No. 219) that are maintained at the ground potential of the device when the screw is connected to the conductive cover.

For claim 4, the tamper sensing circuit is further connected to a first electrical potential (Va) which causes the output node to approach a first electrical potential when the connection to ground potential is interrupted by withdrawing the screw from the external cover.

For claim 5, Figure 2 of **Miglioli** depict marginal flanges on the internal and external covers extending in the direction of the axis of the screw which overlap in the assembled condition to align and position the covers with respect to each other, the

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overlapping length of the flanges being greater than the length of the screw received in the external cover, whereby the connection of the tamper sensing circuit is interrupted before the covers separate sufficiently to permit access to the electrical device.

For claim 6, the tamper sensing method taught by **Miglioli** includes the following claimed steps, as noted, 1) the claimed maintaining the output node at a first electrical potential is achieved using the screw (No. 201) and metal pad (No. 219) connected to ground through the screw, 2) the claimed providing a second electrical potential source is achieved using the voltage V_a to the tamper sensing circuit, and 3) the claimed establishing the second potential at the output node is achieved using said screw being disengaged from the external cover, forcing the metal pad and output nodes to V_a .

For claim 7, the step of maintaining the tamper sensing circuit output node at a first electrical potential of **Miglioli** comprises maintaining the node to ground potential.

For claim 8, the tamper sensing circuit taught by **Miglioli** includes the following claimed subject matter, as noted, 1) the claimed output node is met by the output nodes (No. 303) in conjunction with the metal pads (No. 219), 2) the claimed first electrical potential is met by the ground potential connected to the metal pads when the conductive connector (No. 201) is secured to the external cover (No. 215) and is interrupted when the connector is disengaged from the external cover, and 3) the claimed second electrical potential is met by the voltage V_a which is established at both the metal pad (No. 219) and output nodes when the connection of the ground to the output nodes is interrupted by disengagement of the conductive connector from the external cover.

For claim 9, the conductive connector of **Miglioli** is a conductive screw extending from the internal cover and received in a threaded opening in the external cover.

For claim 10, the electrical device of **Miglioli** is not stated as a printed circuit (PC) board; however, as PC boards have been used as electrical and electronic devices for many years up to and including the time of this patent, this is merely considered an obvious variation on the prior art. One output node (No. 219) is mounted on the electrical device and an aperture through which the screw passes is present further comprising connector means (No. 221) mounted on the board and resiliently engages the screw extending through the aperture.

For claim 11, the first electrical potential of **Miglioli** is the circuit board ground and the tamper sensing circuit comprises a conductive external cover, which extends from the threaded opening, where it electrically connects to the screw when the screw is secured in the opening, to a connector element (Nos. 221 and 219) which interconnects the conductive path to ground.

For claim 12, the resilient annular member (No. 221) of **Miglioli** is a star washer, which typically has a continuous outer portion and radially inwardly extending integral fingers having distal ends defining an opening with a diameter smaller than that of the screw, said integral fingers are deflected by and engage the screw when the screw passes through the aperture. The washer is not soldered to the board, but the decision to attach the washer to the board is best left to the user or designer of the system in order to ensure added security to the system and is therefore considered an obvious variation having no new or added advantage or result.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Buttimer [U.S. 4,945,341] functions as an anti-theft device by sensing AC radiation.

Phillips et al [U.S. 5,621,387] includes a cover fastener that biases a circuit board in an unarmed position.

Conrow [U.S. 5,656,866] is incorporated into the ignition coil of a vehicle.

Leyden et al [U.S. 6,087,939] changes from first to second state upon removal of a fastener.

Lorenz et al [U.S. 6,693,521] determines actual location of a sensor device.

Lehfeldt et al [U.S. 6,774,807] uses energy or some other metered quantity to prevent meter tampering.

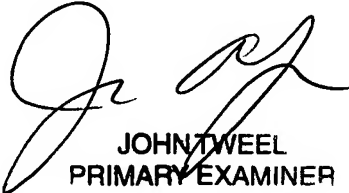
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Tweel, Jr. whose telephone number is 571 272 2969. The examiner can normally be reached on M-F 10-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass can be reached on 571 272 2981. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAT
4/29/05



JOHN TWEEL
PRIMARY EXAMINER